NATIONAL ACADEMY OF SCIENCES

JAMES ROWLAND ANGELL

1869—1949

A Biographical Memoir by

W. S. HUNTER

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The death of James Rowland Angell at Hamden, Connecticut, on March 4, 1949, marked the passing of another of the great figures who shaped the development of American psychology during the formative years when the young science was beginning to expand and to gain extensive academic recognition. Angell came into psychology with a philosophical background which made him particularly sensitive to the general issues that needed discussion and decision as a basis for a sound and fruitful development of psychology. He participated vigorously in the development of the new psychology laboratory at the University of Chicago. He contributed several particularly brilliant analyses of contemporary theoretical problems. Following twenty-five years of work as a psychologist and an administrator at Chicago, Angell went on with outstanding success to become Chairman of the National Research Council, President of the Carnegie Foundation, and President of Yale University. In this last position, he was able to add greatly to the effectiveness of psychology through the establishment at Yale of the Institute of Psychology which later became the Institute of Human Relations. Other high honors came to Angell, but he will be remembered in psychology primarily for his championship of biological functionalism and for his administrative genius in aiding the growth of the science.

Angell was born, the youngest of three children, in Burlington, Vermont, on May 8, 1869, the son of James Burrill Angell and Sarah Caswell Angell. His mother was the daughter of Alexis Caswell (1799-1877) who was graduated from Brown University in 1822 and then, after a brief career as a Baptist minister, became professor of mathematics (1828-63) and subsequently president (1868-72) of that institution. Caswell was also one of the original incorporators of the National Academy of Sciences in 1863, serving for a time as its secretary. James Burrill Angell, the father (1829-1916), was graduated from Brown University in 1849; married Sarah Caswell in 1855; chose the professorship of modern languages at Brown when offered the choice of this position or that of professor of civil engineering and served in the chosen chair

from 1853 to 1860; served as editor of the *Providence Journal* during the Civil War years (1860-66); was the president of the University of Vermont from 1866 to 1871; and from 1871 to 1909 was president of the University of Michigan. During the years 1880 to 1882 he was United States Minister to China, and in 1897-1898 he occupied a similar post in Turkey. Other than those above mentioned, the Angell forebears were of sturdy but undistinguished stock descended from Thomas Angell who accompanied Roger Williams into the future Colony of Rhode Island and Providence Plantations in 1636. Frank Angell was a cousin who became professor of psychology at Cornell, before Titchener, and then professor at Stanford University. James Angell's only brother, Alexis Caswell Angell, was a distinguished lawyer in Michigan, and his only son, James Waterhouse Angell, is a professor of economics at Columbia.

Life as the youngest child in the family of James Burrill Angell was undoubtedly an education in itself as a result of contacts with distinguished visitors and the privilege of several years in Peking and Constantinople. Angell's early formal education was in the public schools of Ann Arbor and in the University of Michigan where he was graduated in 1890. Through high school and college he followed the classics curriculum. The only science that he studied was botany; general biology was not offered and the courses in physics and chemistry could not well be fitted into the classical course. Courses in logic and psychology however were available and these he seems to have elected enthusiastically. John Dewey, who had been graduated at Vermont in 1879, after the Angell family had left, had become a professor of philosophy at Michigan (1889-1894). Dewey's textbook on psychology (1886), the first American volume devoted to the new science, was the initial source of Angell's interest in the field, supported by some work in the history of philosophy under James Hayden Tufts. (Both Tufts and Dewey were later to be Angell's colleagues at Chicago.) The academic year 1890-91 was spent at Michigan working for a master's degree with philosophy as the major field and economics and history as minors. Angell's thesis topic was "imagery," a subject on which he was later to make an important contribution through a report on methodology to the American Psychological Association in 1910. The year

1890 saw the publication of William James' *Principles of Psychology,* and it is not surprising that Dewey offered a seminar on the subject or that young Angell was a member of the group which enthusiastically canvassed the field of the new science so extraordinarily presented by James. For the duration of Angell's life, the fundamental principles and the point of view laid down by James were to be of the greatest possible influence on his psychological thinking.

Angell was now definitely committed to a career in psychology. He had previously decided not to enter medicine because of a tormenting weakness of his eyes and the handicap which this would offer in laboratory work. The year 1891-92 was spent in graduate work at Harvard under James where the most impressive work to Angell seems to have been in abnormal psychology and psychical research, the latter an area in which James was at that time particularly interested. Concerning this period, Angell has written as follows: ". . . it also put me in direct contact with one of the most inspiring and beautiful human beings I have ever known. If the result was not important for psychic research, it was of the utmost importance for my development and my devotion to a noble person whose friendship was warm and intimate as long as he lived." [1]

After receiving his master's degree at Harvard in 1892, Angell decided not to accept the department's offer to remain as a laboratory assistant to Herbert Nichols but to seek his doctor's degree in Germany. It is interesting that Angell did not work in Leipzig with Wundt who was the world's foremost psychologist and champion of an experimental approach to the field, having founded the first laboratory of psychology in 1879. Leipzig had been the mecca for many other American students including G. Stanley Hall, James McKeen Cattell, and Angell's cousin Frank Angell. However, the laboratory space with Wundt was full, and since Wundt's lectures were based on his *Grundzüge der physiologische Psychologie,* which Angell had already mastered, he went on to Berlin to study with Ebbinghaus and Paulsen. For the second semester, he

[1] James Rowland Angell: Autobiography. (Ch. 1 in *History of Psychology in Autobiography,* V. 3.) Worcester: Clark University Press, 1936. p. 7. The present author well recalls the memorial meeting for William James held by the Psychology Department at Chicago in the fall of 1910 when Angell paid moving tribute to the personality and genius of James.

transferred to Halle for study with Benno Erdmann and Hans Vaihinger. At Halle he became a candidate for the doctor's degree presenting a thesis on the treatment of freedom in Kant's philosophy. With his thesis accepted, contingent upon revision to improve its German, Angell was confronted with a formidable personal problem, the choice of remaining in Germany to complete his work for the doctorate or of accepting an instructorship at the University of Minnesota. The salary involved was $1500, adequate however to enable him to marry Marion Watrous of Des Moines, Iowa, whom he had known as a fellow student at Michigan. Angell (now 24 years old) decided to accept the Minnesota offer. Although he was later to receive many honorary degrees and although he supervised the doctoral work of many graduate students, he never returned to Halle for his own degree in course.

One year was spent as an instructor in Minnesota. In 1894 John Dewey, the newly appointed professor of philosophy at the University of Chicago, brought Angell there as an assistant professor in charge of psychology. For the next twenty-five years Angell was to devote his energies to this University, the first fourteen years exclusively to psychology and the last eleven years to an increasing absorption in administrative duties. Angell waited seven years (until 1901) for his first promotion to an associate professorship; and then in 1903, as a result of an offer of a professorship at Princeton, he was promoted to top rank at Chicago. A further gain came from this in 1904, when psychology was made a department separate from philosophy with Angell as chairman. The presidency of Dartmouth College was offered him in 1908. Although he refused it, he accepted the Deanship of the Senior College at Chicago. In 1911, he became Dean of the Faculties and Acting President in 1918-19. Concerning this shift of interest from psychology to administration, Angell has written as follows: "Although I kept up a considerable part of my teaching and continued active supervision of the laboratory and the research program of the department, the division of attention was inevitable and, as so often happens to university men, the administrative work increasingly encroached on the work of the scholar. . . . I have only myself to thank for the outcome, as I could at any time, in the earlier years at least, have turned back. The only element of the situation which gives me permanent distress is

that so often the controlling motive in the early stages of the change was financial. Salaries were small, the costs of living high, my family growing. . . . Indeed throughout almost all of my career at Chicago, I was obliged to add to my normal salary by every available means—by teaching in the summer, by teaching university extension courses, by lecturing before clubs, and by teaching in local institutions in the late afternoons, at night, or on Saturdays." [2]

In 1914 Angell was chosen as Exchange Professor at the Sorbonne; but due to the outbreak of war, he never occupied the post. He was however intimately connected with some aspects of military psychology in this country during 1917-18 as a member of the Committee on Classification of Personnel advisory to the Adjutant General's Office and as a member of the Committee on Education and Special Training which sought to integrate the military and civilian training programs largely through the establishment of the Student Army Training Corps. At the close of the war, Angell succeeded John C. Merriam as chairman of the National Research Council, having been given leave of absence from Chicago for 1919-20. This was not only the year when many of the post-war decisions influencing the future development of the Council were made but the year in which the architectural planning for the new National Academy of Sciences building was accomplished and in which considerable sums of money were raised. In this situation, Angell played an important role. He was greatly stimulated by the problems which he met and by the men with whom he was associated, so much so that he regarded the year as one of the most fruitful periods of his life.

The winter of 1920 brought an invitation to become President of the Carnegie Corporation. Such a move would inevitably mean the breaking of academic ties and the embarking on a new type of career, a difficult task for one who had spent his entire life in universities and who was now 51 years old. However, the situation at Chicago was not encouraging and the decision to accept the Carnegie offer was made. Angell had received numerous offers of university presidencies, including one from Michigan. Members of the Board of Trustees at Chicago had expressed the wish that he become president of Chicago when that position became available, but that was at

[2] Autobiog., p. 15.

some indefinite time in the future. As Angell wrote, "In any case, however, promotion there [Chicago] was, for the time being at least, blocked and my frequent invitations to other positions of consequence kept my status more or less an active subject of comment and discussion in the University community. All this had created a situation which I felt to be a little uncomfortable." [3]

Within a year after accepting the Carnegie post, Angell had to make another difficult decision. He was offered and accepted the presidency of Yale University. This enabled him to return to the congenial conditions of academic life, but it placed him, a man of essentially mid-western outlook in spite of his Rhode Island ancestors, in the position of being the first non-Yale man to be elected to the presidency of that institution. That he had great misgivings concerning the degree to which he could enlist the sympathetic support of the Yale community is certain. That these misgivings were also in part borne out by experience is also clear. Comments in his *Autobiography* can fairly be interpreted as indicating an ambivalent attitude toward the Yale experience. Thus in discussing his refusal in 1908 of the presidency of a New England college, Dartmouth, he says: ". . . I declined the appointment and my subsequent experiences at Yale have confirmed my feeling that the decision was eminently wise." [4] About the Yale decision, he wrote: "In any case, I went and while I have had some dark days, on the whole my life has been very happy. If I have not done all I had hoped, I have at least had fewer obvious failures to regret than I might reasonably have expected." [5] These comments should not be taken to indicate that Angell did not have widespread and increasing support from the friends and members of Yale. Under his administration, Yale carried out a great building program, significantly strengthened its faculty, and particularly (from the standpoint of Angell, the psychologist) established an Institute of Psychology in 1924 with the financial aid of the Laura Spelman Rockefeller Memorial.

The idea of an Institute for cooperative research probably grew largely out of Angell's experience with the National Research Council. From 1922 to 1924, he discussed the problem

[3] Autobiog., p. 19.
[4] Autobiog., p. 14.
[5] Autobiog., p. 20.

with R. M. Yerkes and others seeking a feasible plan by which psychobiological, biological, and anthropological research could be integrated. When the Institute was established, the three major appointments were R. M. Yerkes (for research in psychobiology and primate biology), Raymond Dodge (for research in physiological psychology), and Clark Wissler (for research in racial psychology). In the years that immediately followed, influences were at work at Yale which were to lead Angell to propose an even more comprehensive attack on the problems of human behavior. Experience with the Institute had been favorable. The School of Medicine was expanded and strengthened particularly in the field of psychiatry. The Child Development Clinic under Arnold Gesell was also a part of the picture. It therefore resulted that an enlarged plan was drawn for an Institute of Human Relations to include psychology, primate biology, research and clinical psychiatry, child development, and social science. Funds for a building and for a ten-year research program, totaling $4,500,000, were secured from the Rockefeller Foundation and the General Education Board. By the fall of 1931, the Institute of Human Relations was a going concern. In the Report of the President of Yale University, 1928-29, while the plan was maturing, Angell wrote as follows: "The Institute is designed to achieve two principal ends: first, to carry on research upon the basic problems of human nature and the social order; and second, to train a skilled personnel for work in these fields. Undoubtedly a large part of the most fruitful and significant research must be cooperative in character, and the Institute is so organized as to render this result easy and natural. Crime, poverty, disease, human unhappiness in its manifold forms, cannot be thoroughly understood, much less mitigated and ultimately prevented, without the convergence of many forms of science and technologies, or skills, which are commonly conducted in separation, if not in complete isolation. Biology, psychology, medicine, law, social science, to mention but a few of the related disciplines, are all involved. . . . Prevention, at which we always aim where possible, is obviously impractical, except where there is such opportunity for fundamental understanding of the causative facts." [6] The successful promotion and guidance of this Institute constituted one of

[6] Bull. Yale Univ., Feb. 1, 1930, pp. 5-6.

Angell's great contributions to science and to psychology in particular.

The portion of Angell's career when he was a productive scientist and an immensely stimulating teacher lies between 1894 and about 1912-14, a period when he ranged from 25 to 45 years of age. During this time he raised the status of psychology at Chicago from essentially zero to a rank equal to that of the best three or four departments in the country. Chicago became known for its broad and catholic investigations of all aspects of the human psychophysiological organism. It did not limit itself to the structural analysis of consciousness as did its important rival, Cornell, where Titchener had led psychology since 1892. Graduate students were encouraged to minor in biology, philosophy, or education. H. H. Donaldson, A. J. Carlson, and C. Judson Herrick in biology, J. H. Tufts, A. W. Moore, E. S. Ames, and G. H. Mead in philosophy, C. H. Judd, W. F. Dearborn, and F. N. Freeman in education were all cooperative with Angell's effort to make psychology at Chicago a fruitful science. Through the year 1917, something over 40 doctor's degrees were awarded in the field based on theses on such varied subjects as the following: sex differences in mental traits, the psychology of meaning, animal behavior, volition, imagery, hearing, vision, social psychology, tests, memory and learning, space perception, and systematic theory. Practically without exception, they were theses based on extensive experimental work. The one outstanding theoretical paper was written by Carl Rahn on the place of sensation in contemporary theory. This study, guided and criticized by Angell, leveled such a devastating criticism at the doctrine of elements and attributes that a major modification of Titchener's structural psychology was required. To call only a partial roll of the psychologists who took their doctor's degrees at Chicago during Angell's tenure will suffice to remind the psychological reader of the importance of Chicago in the development of the science in this country: Helen T. Woolley, Kate Gordon, John B. Watson, Harvey Carr, Grace Fernald, Joseph Peterson, June Downey, W. V. Bingham, C. S. Yoakum, Carl Rahn, Stella Vincent, Ellsworth Faris, E. S. Robinson, Beardsley Ruml, and L. L. Thurstone.

In the departmental development which has been sketched above, Angell had of course the cooperation of his colleagues in

psychology, particularly of John B. Watson from 1903 to 1908 and of Harvey Carr after 1908, his own students and two of the best experimental psychologists that America has produced. It was Angell's leadership, however, which supplied the guiding thread of unity to the growing department. In addition to this and to the general, sometimes specific, guidance of research, Angell was contributing something novel in American psychology, systematic seminars on the history of German, French, and American psychology devoted primarily to the analysis of theories and concepts. Angell's own experimental research was concerned with reaction time as a function of attention, space perception, imagery, the monaural localization of sound (with himself as subject since he had been deaf in one ear from childhood), and the relation of organic processes to consciousness. All of this work involved both objective data and introspective reports from the subjects, although the introspections were never of the Titchenerian element and attribute type.

Functionalism is the general point of view in psychology with which Angell's name is most closely linked. Many psychologists abroad had refused to follow Wundt's lead on theoretical problems where it was held that the purpose of psychology was an analysis of immediate experience into its elements and attributes, with a later synthesis of the elements into complex processes. James was an outstanding opponent of such a view in this country. When E. B. Titchener accepted the Cornell post in 1892, coming from England and from Wundt's laboratory in Leipzig, the Wundtian systematic point of view was transplanted to America, to be supported by a series of textbooks and articles from Titchener's pen as well as by extensive experimental research from his laboratory, but never to be wholly naturalized in this country. The most trenchant criticisms of this structuralism came from the Chicago group.

American functionalism, or better biological functionalism, opposed the view that the primary purpose of psychology is the analysis of immediate experience into its elements and their attributes by the method of introspection. From the functional point of view, psychology uses both introspective and objective methods in the study, primarily, of consciousness viewed as a psychophysiological process having adaptive value in the adjustment of the organism to its environment. There was room in

such a system for all of the verifiable findings of the Wundtian-Titchenerian structuralism, but there was also room for all of the other non-introspective results to be obtained on adaptive behavior by means of mental tests, physiological studies, research on animal behavior, and objective methods in general. The Darwinian influence on such a point of view is obvious and is testified to in one of Angell's papers (1909). If consciousness is one aspect of a psychophysiological whole, it must as a biological process have had an origin in man or in the animals below him and, since it has survived, it must have a useful function in the adaptive life of the organism. In brief, Angell's position was as follows: Consciousness appears (and appeared phylogenetically) when reflexes, instincts, and habits fail to solve the problem which confronts the organism. Consciousness aids in the solution of the problem and then, no problem existing longer at that point, passes on to other points of conflict in the organism's behavior. Were consciousness not in general a problem solver it would have no adaptive value and hence would not have survived as a function of the organism. Not only consciousness in general but consciousness in its various forms has an adaptive function. Thus one should be able to discover the adaptive values of sensation, emotion, memory, and thought. Such a point of view, whether theoretically sound or not, would (and did) encourage an extremely wide variety of experimental studies. In general the theory implies the intervention of consciousness as a causal agency in the stream of natural events and postulates a lapsed intelligence theory of instincts, i.e., that instinctive behavior was originally conscious behavior which through repetition became "unconscious" as habits are alleged to become when they turn into automatic acts. Angell's textbook (1904) gave the first comprehensive application of this functionalistic point of view to psychology.

The origin of Angell's views on functionalism lies first, in James' psychology, and second, in the papers on emotion (1894), the reflex arc (1896), and effort (1897) written by John Dewey. Angell's first experimental work (1896) on the role of attention in determining reaction times involved a functional rather than a structural approach to the problem. As he wrote in explanation later (1898): "Given a situation where a sensation involves a small group of coordinations habitual in type and the move-

ment itself necessitates another such group, the function of attention will be found at that point where the various coordinations comprised in the total sensation-and-movement act are least perfect, least thoroughly habitual." [7]

In a personal letter to the present writer dated April 22, 1925, Angell wrote as follows concerning functionalism: "It was not until I went to Chicago as Assistant Professor under Dewey in 1894—and indeed not for several years after that—that I myself began to use in any effective way the conception that consciousness arises in moments of conflict. My further impression is that, in my own article, written conjointly with A. W. Moore, on reaction time, and in my treatment of the relation of instincts to consciousness [in the 1904 textbook], I gave a rather more definite orientation of the idea you are dealing with as a part of a general system of psychology than any one had previously attempted to do. I had been much influenced by James' conception of habit, and it seemed to me, as you well know from my writing and teaching, that consciousness appeared chronologically in the life of the individual between the activities which were purely instinctive and those which had become purely habitual. This conception of the genetic trinity, i.e., instinct, conscious reaction, habit, I do not now recall getting directly from Dewey in that form, although I dare say I did. I should have to look up the papers to be sure about it; but I certainly got the essential conception of consciousness as connected with conditions of tension in adjustment directly from Dewey. I do not recall ever to have heard him bring that theory into connection with the 'lapsed intelligence' theory of instinct, although the logical nexus is obvious enough. I have never, since my original contact with the idea and my efforts to give it a thorough-going formulation as part of a system of psychology, encountered anything which added materially to my own view. The thing which has always astonished me is that the idea has made no greater headway and has not appealed more vividly to the systematizers in psychology. I still think it is a sound and fruitful idea and, so far as I know, one which is essentially true."

Again in a letter dated March 7, 1934, Angell wrote as follows in acknowledging the receipt of a reprint: "I am nat-

[7] Habit and attention. Psychol. Rev., 1898, 5, 180.

urally much interested in the general issue, for the 'lapsed consciousness doctrine' played a very large part in my own thinking and, while I am now quite out of the field of active participation in such issues, the general conception seems to me extremely persuasive. The particular negative considerations which are referred to in your paper do not seem to me altogether convincing as bases for a general challenge to the lapsed consciousness theory in its broader applications."

Writing in 1907, Angell had said: "The functional psychologist then in his modern attire is interested not alone in the operations of mental process considered merely of and by and for itself, but also and more vigorously in mental activity as a part of a larger stream of biological forces which are daily and hourly at work before our eyes and which are constitutive of the most important and absorbing part of our world. . . . This is the point of view which instantly brings the psychologist cheek by jowl with the general biologist." [8] He then proceeded to indicate the value of such a psychological viewpoint for the analysis of behavior disorders and for the adequate comprehension of such philosophical problems as the rightness and wrongness of behavior (ethics) or the trueness and falseness of judgments (logic). As early as 1903, Angell was writing that truth and falsehood are simply impressive names for successful and unsuccessful operations of adaptation, a view closely related to that of the instrumental logic being developed by Dewey and to the pragmatism of James. And in the same article he was stressing the dependence of social psychology and scientific ethics upon the concept of adaptation which underlay the functional point of view in psychology. Certainly history has borne out Angell's prediction that a structural psychology could not cope with the growing and expanding problems of the science.

There is an element of irony in the fact that Angell's very emphasis upon the importance of biological adaptation and consequently upon studies in animal behavior should have given rise to, or at least to have been followed by, a point of view in psychology to which he was violently opposed, behaviorism. Although John B. Watson left Angell's department at Chicago in 1908 and did not publish explicitly on behaviorism until 1913, the point of view grew out of the work on animal behavior

[8] The province of functional psychology. Psychol. Rev., 1907, 14, 70-71.

which Watson and others were doing at Chicago as early as 1903. Behaviorism sought to write a psychology without including consciousness, denying in fact that consciousness could be something for scientific study. This was not merely another objective psychology which left part of the science to a subjective branch. Rather it was contended that an adequate account could be given of all phases of human behavior without making use of the concept of consciousness. This was a far cry from functionalism where consciousness as an instrument of biological adjustment was the central theme. Angell's only extensive writing on behaviorism appeared in 1913 in an article entitled *Behavior as a Category of Psychology*. At that time his attitude was in general friendly, since he had always encouraged objective experimental work irrespective of the introspective method or of the bearing of the work upon problems of consciousness, but he counselled strongly against omitting consciousness altogether from the science. "We must be cautious therefore that in seeking for bettered means of knowing human nature in its entirety we do not in effect commit the crowning absurdity of seeming to deny any practical significance to that which is its chief distinction—the presence of something corresponding to the term mind—the one thing of which the fool may be as sure as the wise man. We may agree then that in theory all and in practice much of our mental life might be stated in terms of objective behavior. To do this would involve trespassing rather freely on the preserves of biology, physiology, and neurology on the one side and upon those of the social sciences on the other. But such trespass is perfectly legitimate provided the trespasser is willing to face the chance that he may find himself annexed, appropriated, and in general swallowed up by the owner of the territory which he invades. . . . At this point too we come upon one of those fundamental lines of cleavage in human interests which cannot be justified, but which nevertheless determine conduct and career. The person to whom mental process as mental process is the only fascinating and ultimately worthy subject of study is not likely to rest content with any such program as that depicted. . . . To such a one any abandonment of introspection must seem a pitiful and mean desertion of the real object of worth. Whether this view permanently prevails or becomes an esoteric

scientific cult, it is a safe prediction that we shall always have it with us." [9]

It is too much, perhaps, to expect that Angell, long out of direct contact with psychology, would have changed his views in later years. It is no surprise then that in 1936, after over twenty years of behavioristic work in psychology, he wrote as follows: "Exclusive methods, like Watsonian behaviorism, simply beg the question and tacitly assume data which, without essentially introspective processes, performed by their predecessors, if not by the proponents themselves, would be paralyzed and wholly sterile. I may inject in passing that, despite much which seems to me rather ridiculous in its naiveté, I value highly the contribution behaviorism has made both to methodological procedure and to factual knowledge of both human and animal life." [10]

Among other of Angell's contributions to psychology, attention might be called to his trenchant and illuminating criticism of the doctrine of imageless thought which was presented as a lecture at Columbia [11] as well as to his thoughtful weighing of the evidence for and against the James-Lange theory of emotion.[12] In this latter article, after reviewing the evidence, Angell wrote: "James himself, could he but participate in this discussion, would, I am sure, be immensely more interested to discover and define the real facts than to justify any mere theory of his own. And I think he would perhaps urge that, after all controverted points were left aside, the main issues for which he would wish to contend are (1) the instinctive basis of emotional reactions, and (2) the invariable repercussion upon the cortex of these reflex effects in the muscles, glands, and viscera. Phrase your doctrine so that these two great groups of facts are recognized and properly evaluated, and you may call your theory Jamesian or not as you please. You will at least have accepted what lies at the root of James's theory." (p. 261)

Angell's *Chapters from Modern Psychology* (1912) is based on a series of lectures to a general audience at Union College given with the purpose of acquainting such groups with the

[9] Behavior as a category of psychology. Psychol. Rev., 1913, 20, 268-269.
[10] Autobiog., 26-27.
[11] Imageless thought. Psychol. Rev., 1911, 18, 295-323.
[12] A reconsideration of James' theory of emotion in the light of recent criticisms. Psychol. Rev., 1916, 23, 251-262.

broad scope and general principles of psychology. The volume was widely used in college courses, and it was the justification to the present writer for the inclusion in his *General Psychology* (1919) of separate chapters on the fields of psychology. The current broadening of the scope of general psychology textbooks which began in 1919 and which still continues may thus be said to have had its original impetus primarily from Angell.

Angell served as President of Yale from 1921 until his retirement in 1937. During this period his wife died (1931) and he married Katharine Cramer Woodman (1932). After retirement he became educational counselor to the National Broadcasting Company. To this were added duties as trustee of the American Museum of Natural History, curator of Stephens College, director of the Museum of Science and Industry and director of the Hall of Fame. When death came to him, he had completed a great career widely acclaimed by his contemporaries. He had been the recipient of honorary degrees from Berlin, Brown, California, Chicago, Cincinnati, Columbia, Dartmouth, Halle, Harvard, McGill, Michigan, Middlebury, New York, Pennsylvania, Pennsylvania Military College, Rensselaer, Rutgers, Wabash, Wesleyan, Williams, and Yale. He had been decorated Chevalier and Officer of the Legion of Honor, Grand Officer of the Order of the Crown of Italy, Chinese Blue Grand Cordon Order of the Jade, and he had received the gold medal of the National Institute of Social Science. Angell was honored by election to the National Academy of Sciences (1920), the American Philosophical Society (1924), and the American Academy of Arts and Sciences (1932). He served on the Council of the American Psychological Association from 1903 to 1906, and was President of the Association in 1906. From 1912 to 1922 (two years after going to Yale) he served with great wisdom and distinction as the Editor of the *Psychological Monographs.*

KEY TO ABBREVIATIONS USED IN BIBLIOGRAPHY

Amer. J. Sociol. = American Journal of Sociology
Amer. Med. Assoc. = American Medical Association
Amherst Grad. Quart. = Amherst Graduate Quarterly
Educ. Rev. = Educational Review
J. Person. Res. = Journal of Personnel Research
J. Phil. Psychol. = Journal of Philosophy, Psychology, and Scientific Methods.
Phil. Rev. = Philosophical Review
Psychol. Bull. = Psychological Bulletin
Psychol. Monog. = Psychological Monographs
Psychol. Rev. = Psychological Review.
Rev. de mét. et de mor. = Revue de métaphysique et de morale
Scient. Mo. = Scientific Monthly
Soc. Forces = Social Forces
Univ. Chicago Decenn. Publ. = University of Chicago Decennial Publications
Yale Alum. Wkly. = Yale Alumni Weekly

PARTIAL LIST OF PUBLICATIONS BY JAMES ROWLAND ANGELL

1896

(With A. W. Moore) Reaction time: a study in attention and habit. Psychol. Rev., 3, 245-258.

(With S. F. McLennan) The organic effects of agreeable and disagreeable stimuli. Psychol. Rev., 3, 371-378.

1897

Thought and imagery. Phil. Rev., 6, 646-651.

1898

Habit and attention. Psychol. Rev., 5, 179-183.

(With J. N. Spray and E. W. Mahood) An investigation of certain factors affecting the relations of dermal and optical space. Psychol. Rev., 5, 579-594.

1899

(With H. B. Thompson) The relations between certain organic processes and consciousness. Psychol. Rev., 6, 32-69.

1901

(With W. Fite) The monaural localization of sound. Psychol. Rev., 8, 225-246.

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1904

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